DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
PMB 2020
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PIERRE, SOUTH DAKOTA 57501-3182
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February 20, 2008

Colin Campbell
Hyperion Energy Center – Hyperion Refining LLC
1350 Premier Place, 5910 North Central Expressway
Dallas, Texas 75206

Dear Mr. Campbell:

I have reviewed Hyperion Energy Center – Hyperion Refining LLC's (Hyperion's) Prevention of Significant Deterioration (PSD) application. Hyperion proposes to construct and operate an energy center that consists of a petroleum refinery, power plant, and ancillary equipment. The project would locate in Union County, near Elk Point, South Dakota. A review of the six basic parts of a PSD application is discussed below:

Part 1 – Source Applicability Determination

Hyperion has identified that the facility will be a new source applicable to the PSD program.

Part 2 – Pollutant Applicability Determination

The Hyperion project has the potential increase greater than the significant net threshold of 25 tons of particulate matter, 15 tons of particulate 10 microns or less than, 40 tons of sulfur dioxide, 40 tons of nitrogen oxides, 40 tons of volatile organic compounds, 100 tons of carbon monoxides, 10 tons of hydrogen sulfide, and 7 tons of sulfuric acid. Hyperion has identified that it is applicable to the PSD requirements for these pollutants.

Part 3 – BACT Analysis

Hyperion identified the Best Available Control Technologies (BACT) for the specified air pollutants and processes. In addition, the appropriate discussion of energy, environmental, economic, and other costs associated with each alternative technology is provided.

Part 4 – Ambient Air Quality Analysis

Instead of conducting on-site ambient air quality monitoring, Hyperion has chosen to use the monitoring data from Sioux Falls, South Dakota to represent the existing ambient air quality around the proposed location. The Department of Environment and Natural Resources' (DENR's) considers the Sioux Falls monitoring data as being representative for this project to use in the National Ambient Air Quality Standards and Air Quality Increment modeling analysis.

Part 5 – Source Impact Analysis

Hyperion conducted a source impact analysis to determine compliance with the National Ambient Air Quality Standards and PSD Increments. The analysis was conducted using an air dispersion model, ambient air quality data, and air emission inventories for other air pollution facilities near the proposed location. Hyperion identified in the application that the controls they are proposing will maintain the air quality in Union County and the surrounding area below the National Ambient Air Quality Standards and PSD Increments.

Part 6 – Additional Impact Analysis

The models that are used to determine impacts for a Class I area are valid up to approximately 300 kilometers. Due to being greater than 400 kilometers from a Class I area, Hyperion indicates that the project does not have the potential to impact the Class I areas in South Dakota, North Dakota, Minnesota, etc. Hyperion conducted a soil and vegetation impact, a visibility impairment impact, and a growth analysis for the project. Hyperion indicates that the project will not have a significant adverse impact on the surrounding area.

Hyperion has provided all the necessary components listed in the PSD regulations for DENR to deem the application complete. Although the application is considered complete, DENR may request additional information to clarify and verify terms or conclusions in the application during the review process.

In regards to future additional information, I am requesting the following information now to help facilitate DENR's technical review:

1. The emission rates or percent reductions for the alternative options not proposed in the Best Available Control Technology (BACT) analysis to assist DENR in evaluating the BACT review;
2. The equipment sheet forms and process rates for the following equipment:
   a. The eight gasifiers;
   b. The five refinery flares;
   c. The gasification flare;
   d. The power island acid gas removal; and
   e. The carbon dioxide vent;
3. The process rates for the following equipment:
   a. The two platform catalyst regenerators;

b. The oleflex catalysis regenerator;
c. The six sulfur recovery plant thermal oxidizers;
d. The wastewater treatment and thermal oxidizer;
e. The petroleum coke building;
f. The coal unloading building;
g. The flux unloading building; and
h. The slag loading building; and

4. The electronic spreadsheets used in the cost analysis for the BACT review.

I look forward to working with you during DENR's review of this application. Please feel free to contact me either by email at Kyrik.Rombough@state.sd.us or by phone at (605) 773-3151, if you have any questions. Thank you for your application.

Sincerely,

Kyrik Rombough
Natural Resource Engineering Director
Air Quality Program

cc: Preston V. Phillips, Hyperion
Secretary Richard Benda, Department of Tourism and State Development
Kevin Forsch, Office of the Governor
Jason Glodt, Office of the Governor